

**UNITED STATES DISTRICT COURT  
DISTRICT OF MINNESOTA**

---

UNITED STATES OF AMERICA,

Plaintiff,

v.

**ORDER**

Crim. File No. 097-31(3) (MJD/AJB)

(3) LUIS MARINAE CORONA,

Defendant.

---

UNITED STATES OF AMERICA,

Plaintiff,

v.

Crim. File No. 00-168 (MJD/JGL)

(1) MARVIN RAY HANSON, JR.,

Defendant.

---

Michael L. Cheever, Assistant United States Attorney, Counsel for  
Plaintiff United States of America.

Reynaldo A. Aligada, Jr., Office of the Federal Defender, Counsel for  
Defendants Luis Marinae Corona and Marvin Ray Hanson, Jr.

---

**I. INTRODUCTION**

This matter is before the Court on an Order and Amended Petition on Supervised Release for Defendant Luis Marinae Corona [Docket No. 237 in 0:97-cr-31] and on Corona's Motion to Deny Petition to Revoke Supervised Release [Docket No. 255 in 0:97-cr-31]. Also before the Court are the Order and Petition on Supervised Release for Marvin Ray Hanson, Jr., [Docket No 86 in 00-cr-168] and Hanson's Motion to Deny Petition to Revoke Supervised Release [Docket No. 99 in 00-cr-168]. Each petition is based, at least in part, on positive sweat patch results. The Court held an evidentiary hearing on October 31, 2007, and November 1, 2007.

## **II. FACTUAL BACKGROUND**

### **A. Defendant Luis Marinae Corona**

After a jury trial, Corona was found guilty of Conspiracy to Distribute Cocaine, Aiding and Abetting Distribution of Cocaine, and Felon in Possession of a Firearm. On January 13, 1998, Corona was sentenced to 137 months in prison, to be served concurrently on all counts, and to 6 years supervised release. Corona was released from custody on December 17, 2006, and began serving his 6-year term of supervised release.

At his first meeting with his probation officer, December 20, 2006, Corona provided a urine sample that tested positive for marijuana. (Tr.

10.) He continued on supervised release under modified conditions.

On January 23, 2007, Corona provided a second urine sample, which tested positive for marijuana. (Tr. 10; Govt. Exs. 1-2.) Corona's probation officer confronted him about this second positive urine sample, and Corona denied using marijuana and stated that he had been in the company of a woman who smoked marijuana. (Tr. 13.)

On February 28, 2007, the Probation Office petitioned to revoke Corona's supervised release based on the second positive urine test. On March, 26, 2007, the Probation Office submitted an Amended Petition based on the January 23, 2007 positive urine test and on sweat patch results for periods covering February 14-21, 2007, and February 21-28, 2007, both of which tested positive for cocaine.

Of the six sweat patches Corona wore between February 14, 2007, to March 28, 2007, each tested positive for either cocaine or marijuana or both. (Govt. Ex. 3.) Each of the sweat patches which tested positive for cocaine also provided that cocaine metabolite was present. (Govt. Exs. 4-7, 9.) The sweat patch removed from Corona on February 21, 2007, tested positive only for cocaine. (Govt. Exs. 3-4.) The sweat patch removed from him on February 28, 2007, tested positive for both cocaine and marijuana. (Govt. Exs. 3, 5.) The sweat patches removed from

Corona on March 7, 2007, and March 14, 2007, each tested positive for both cocaine and marijuana. (Govt. Exs. 3, 6-7.) The sweat patch removed from Corona on March 21, 2007, tested positive for only marijuana. (Govt. Exs. 3, 8.) The sweat patch removed from Corona on March 28, 2007, tested positive for both cocaine and marijuana. (Govt. Exs. 3, 9.)

Corona provided urine samples on the dates when he had the sweat patch applied and removed. (Tr. 15-16.) Each of those urinalysis and all random urinalysis tests were negative. (Tr. 18.) Corona's Probation Officer, testified that other than Corona's positive sweat patch results, she had no other concerns regarding his supervision. (Id. 20.)

**B. Defendant Marvin Ray Hanson, Jr.**

On December 7, 2000, Defendant Marvin Ray Hanson, Jr., pled guilty to Manufacturing Marijuana. On March 23, 2001, the Court sentenced Hanson to 70 months in prison and 4 years supervised release. Thereafter, Hanson was released from custody, and began serving his 4-year term of supervised release.

On October 19, 2006, a sweat patch was removed from Hanson that tested positive for methamphetamine. (Govt. Ex. A; Tr. 23.) Hanson admitted to using methamphetamine, and the conditions of his

supervised release were modified. (Tr. 23.)

On April 5, 2007, a sweat patch was removed from Hanson that tested positive for marijuana. (Govt. Ex. A-B; Tr. 24.) On April 27, 2007, Hanson's next sweat patch was removed and it tested positive for methamphetamine. (Govt. Exs. A, C, Tr. 24.) Based on these results, the Probation Office petitioned for revocation of Hanson's term of supervised release on June 7, 2007. All of the urinalysis tests by Hanson, all from dates after the positive sweat patch tests, have been negative. (Govt. Ex. A.)

### **III. DISCUSSION**

#### **A. Standard**

The Court may "revoke a term of supervised release" if it "finds by a preponderance of the evidence that the defendant violated a condition of supervised release." 18 U.S.C. § 3583(e)(3). "If the defendant . . . as a part of drug testing, tests positive for illegal controlled substances more than 3 times over the course of 1 year; the court shall revoke the term of supervised release . . ." 18 U.S.C. § 3583(g).

The revocation of probation is reviewed for an abuse of discretion. Revocation of probation requires only enough evidence, within a sound judicial discretion, to satisfy the district judge that the conduct of the probationer has not met the conditions of probation. The violation of probation conditions must be substantial. Probation revocation is

appropriate only if the probationer's behavior demonstrates that he cannot be counted on to avoid antisocial activity, and is not warranted by the mere accumulation of technical violations.

United States v. Leigh, 276 F.3d 1011, 1012 (8th Cir. 2002) (citations omitted).

## **B. Sweat Patch Tests**

In both Defendants' cases, the petitions to revoke supervised release are based on sweat patch tests that tested positive for illegal drugs.

The sweat patch, which is marketed by PharmChem, Inc., is composed of an absorbent pad and an outer membrane. After the skin is cleaned with alcohol, the patch is applied to the wearer[ ], and the absorbent pad collects the wearer's sweat, over a period of a week or more. The [wearer]'s sweat wets the pad, the water in the sweat eventually evaporates through the non-occlusive membrane, and any drugs remain in the absorbent pad. Once the sweat patch is removed from the [wearer], it is returned to PharmChem for analysis. If the absorbent patch is removed from the skin, it cannot be reattached. The patch has been 'cleared' by the Food and Drug Administration for use as a drug testing device and is used widely in the criminal justice system because of its perceived advantages over other forms of drug testing, e.g., its non-invasiveness, resistance to intentional adulteration, and ability to detect drug-use over relatively long periods.

United States v. Meyer, 483 F.3d 865, 866 (8th Cir. 2007) (citations omitted).

The Eighth Circuit recently held that "sweat patch results are a

generally reliable method of determining whether an offender has violated a condition of his or her probation.” Meyer, 483 F.3d at 869. However, the court qualified its holding by noting “that positive sweat patch results are [not] invariably a reliable indicator of drug usage. There may well be certain instances where offenders offer compelling reasons to believe that positive test results from sweat patches are erroneous. District courts should make such determinations on a case-by-case basis.” Id.

### **C. Procedures for Use of the Sweat Patch**

#### **1. Recommended Procedures**

According to the sweat patch training video, before the sweat patch is applied, the observer should wear disposable gloves and clean the donor’s skin with at least two alcohol pads. The observer should use enough alcohol pads so that there is no discoloration on the surface on the pad after cleaning. The observer removes the patch from its wrapper, applies it to the donor’s skin, and signs the chain of custody form.

In order to remove the sweat patch, the observer uses disposable gloves and single-use tweezers. Both the observer and the donor review the chain of custody form and initial it. The observer checks the sweat patch for signs that it has been compromised and then records any pertinent information on the chain of custody form. The sweat patch

training video recommends that the patch should be worn for a maximum of seven days.

**2. Whether the Sweat Patches Were Properly Applied and Removed in These Cases**

**a. Application**

Corona and Hanson assert that there were times when the sweat patches were applied to locations that they cleaned themselves, instead of cleaned by personnel at Recovery Resource Center ("RRC"). However, Corona and Hanson did not testify regarding the specific sweat patches which tested positive.

RRC employee Dave Larson testified that at the hearing that at the specific time periods at issue for the positive sweat patches in this case, he followed a routine which included all proper procedures for application and removal, including wearing gloves for both application and removal and thoroughly cleaning the skin before application. (Tr. 33-42.) Larson applied and removed sweat patches for both Corona and Hanson. (Tr. 32, 44).

Larson personally cleaned the area of each of the defendant's bodies to which the sweat patches were attached, and did so until no further residue showed up on the alcohol swipes. (Tr. 35-36.) For the time period of the positive sweat patch test results, Larson placed a



second layer over the sweat patch to help protect it from the environment so the sweat patch would stay on longer. (Tr. 37-38.)

Larson did admit that at some point in the past, he may have allowed the donor to use an alcohol swab to clean his or her own skin with bare hands. (Tr. 48.)

The purpose of thoroughly cleaning the area to which the sweat patch is applied is primarily to ensure that the sweat patch adheres well to the body. (Tr. 36.) There was no evidence presented that even if inadequate cleaning occurred, this would result in the sweat patch testing positive.

**b. Removal**

Hanson testified that some patches peeled away from his body, exposing the absorbent pad to the environment, before the sweat patch was removed by RRC. Specifically, Hanson testified that sometimes the patch peeled back and filled with water after a shower. (Tr. 145.) He testified that when the patch became detached from his skin, he would apply a second membrane to the patch to keep it sealed. (Id.) RRC provided the second membrane to him, but did not apply it when the sweat patch was applied. (Tr. 145-46.)

Neither Defendant provided testimony addressing the sweat patches

coming away from their bodies for the specific sweat patches which tested positive.

Larson testified that each sweat patch at issue was still adhered fully to the defendant's body before he removed it. (Tr. 40-44.) If the sweat patch was not fully sealed, the RRC employee would have noted this fact on the sweat patch tracking form. (Tr. 41-44.) There was a line on the form on which the RRC employee would indicate whether the sweat patch "appeared to be tampered with or compromised." (Govt. Ex. B.)

Although the PharmChem training video recommends that the patch should be worn up to seven day, Hanson's positive patches were worn for up to 22 days. (Govt. Exs. B-C.) However, there is no evidence in the record that prolonged wearing could cause a false positive.

### **3. Finding**

The Court concludes that the Government has shown, by a preponderance of the evidence, that the sweat patches at issue that provided positive test results for Hanson and Corona were still properly adhered when they were removed at RRC. Although Defendants assert that some patches came away from the body, there is no such testimony with respect to the particular patches at issue in these cases and the

chain of custody form for each patch at issue contains no notation indicating that the patch was compromised. The Court finds credible Larson's testimony that RRC employees would have indicated on the form if the patch was compromised.

The Court further finds that, at some point in the past, Defendants cleaned their own skin with alcohol before the sweat patches were applied. This practice was discontinued. There is no evidence that the fact that, at some point in the past, Defendants cleaned their own skin caused the patches to adhere improperly or led to positive test results.

### **3. Testimony of Dr. Frederick Smith**

Defendants presented the expert testimony of Dr. Frederick Smith, a professor of forensic science at the University of New Haven. The Court did not find Smith's testimony to be persuasive in these cases.

Smith's testimony lacked relevance for a number of reasons. Smith did not challenge the validity of urinalysis tests, such as Corona's two urinalysis tests which was positive for marijuana. Smith did not meaningfully address sweat patch tests which were positive for marijuana, such as the five positive tests for Corona and the one positive test for Hanson. Smith also did not provide specific and meaningful testimony regarding sweat patch tests which were positive for

methamphetamine, such as the positive test for Hanson.

Smith did not offer opinions regarding either Hanson or Corona. Smith provided no opinion regarding the validity and reliability of the specific test results for Corona that were positive for cocaine and cocaine metabolite.

The Court further finds that Smith's "contamination from without" study is not relevant because his study involved pouring cocaine in a liquid form onto a sweat patch that was soaked in acidic fake sweat. (Tr. 68-69.) Smith concluded that this experiment demonstrates that if a patch becomes wet on the outside from, for example, a basic cleaning product, drugs may pass through the patch. (Tr. 71.) This test condition did not mimic real world circumstances - there is no allegation that either Defendant came in contact with liquid cocaine.

The Court also discounts Smith's "contamination from within" study because he was the only subject in the study, in which he cleaned his pores with alcohol swipes and dripped cocaine in a liquid form onto those opened pores and then later covered that same part of the body with a sweat patch. (Tr. 72-73, 75, 110-12.)

Smith's study of cocaine users in treatment was also not helpful. Smith conducted his experiment by testing participants in a drug

treatment program with urinalysis six days a week and sweat patch testing. (Tr. 61-65.) Some participants had urinalysis tests that were negative six days a week, but still had positive sweat patch results. Smith concluded that the positive sweat patch results came from exposure to drugs but not from actual use by the participants, based on the fact that their urinalysis tests were negative. Simply because the urinalysis tests were negative six days a week does not persuasively demonstrate that the participants did not use drugs. In Meyer, the Eighth Circuit concluded that contemporaneous negative urine tests did not mandate a finding that the positive sweat patch results were unreliable. 483 F.3d at 870 (“A negative urine test does not mean that Meyer did not take cocaine; it means only that the test did not reveal that Meyer had done so. In addition, we note that it is possible for individuals to escape urinalysis detection through any number of devices and methods.”) (citation omitted).

Smith also testified that benzoylecgonine, also known as “BE,” is a breakdown product of cocaine that may be produced both inside the body and outside the body. (Tr. 67-68.) Smith testified that BE can be produced outside the body by being on the skin and also in the presence of a substance with a higher pH, such as cleaning products. (Tr. 68.)

Smith testified that BE is often present in street cocaine. (Id.) However, the Court does not find this testimony relevant, because Smith also testified that he was not aware of any evidence that BE can penetrate the membrane and contaminate the patch. (Tr. 99.)

The Court agrees that “the conditions under which Dr. Smith performed experiments with the sweat patch do not accurately reflect the day-to-day use of the sweat patch and thus, possess little if no probative value in determining whether Defendant’s sweat patch was contaminated by an outside source.” United States v. Zubeck, 248 F. Supp. 2d 895, 899 (W.D. Mo. 2002). As in Zubeck, “Dr. Smith presented no scientific evidence demonstrating that the conditions under which he caused contamination in the lab could occur during casual day-to-day contact with methamphetamine.” Id.

#### **4. Corona’s Explanation for His Positive Sweat Patches**

Corona offers no innocent explanation for his positive urine test on January 23, 2007 in either his testimony or his post-hearing memorandum. (Tr. 163-64.) The fact that Corona was using marijuana as soon as he was released in December 2006 and again in January 2007 lends credibility to the positive sweat patch results showing marijuana and cocaine use in February and March 2007. Corona admitted smoking

marijuana before his first urinalysis test. (Tr. 168.)

Although Corona argues in his post-hearing memorandum that he told his probation officer that he had been in the company of a woman who was using drugs after his positive sweat patch results, his testimony actually states that he made this statement to his probation officer after his second positive urine test, not after his positive sweat patch tests. Additionally, during the hearing, Corona also testified that he had not been in the presence of anyone using marijuana or cocaine since December 16, 2006. (Tr. 168.) The Court does not find Corona's assertion that his sweat patch results were positive because he was in the presence of a drug user to be credible.

Corona also testified that he cleaned his own skin with alcohol swabs before the patch was applied, although this practice changed. (Tr. 162.) After the change, Larson would clean Corona's arm and would give him a second membrane and recommend that he use it to cover the patch. (Tr. 163.) However, Corona does not offer evidence to explain how his cleaning his own arm with the alcohol swab would cause a false positive result. Moreover, BE was present in Corona's cocaine sweat patches, and there is no evidence that BE could penetrate the membrane.

Additionally, Smith did not offer any testimony to support the proposition that an association with a marijuana user could result in sweat patches that tested positive for marijuana.

The Court finds, by a preponderance of the evidence, that the six positive sweat patch results for Corona were reliable and resulted from Corona's use of marijuana and cocaine. There is no evidence of BE or marijuana being able to penetrate the membrane and the Court found that the sweat patches were not compromised. Corona also admitted to using marijuana after his release from prison. Corona has violated the terms of his supervised release, as set forth in Amended Petition.

#### **5. Hanson's Explanation for His Positive Sweat Patches**

Hanson asserts that his positive sweat patch results are due to his intimate relationship with a woman who used both marijuana and methamphetamine and his residence in a house with two other marijuana and methamphetamine users.

Hanson testified that his girlfriend, Lisa Canning, used marijuana and methamphetamine and that, in April 2006, he lived at his parents' house, with his brother, Roger Hanson, and another man, Jim Hill, who each also used marijuana and methamphetamine. (Tr. 130-32.) Occasionally, Hill's girlfriend, who also used methamphetamine, stayed



at the house. (Id.) Hanson's bedroom was once occupied by Hill. (Id. 131.) Hanson asserts that in April 2007, he cleaned, washed walls, and painted his home. (Tr. 146.) He worked on the living room and dining room with his brother. (Id.) Hanson used heavy-duty detergents which got onto his body, including his chest, where the sweat patch was typically applied. (Id. 146-47.) Hanson also pulled carpet and engaged in other physical activity. (Id. 147.) Hanson's probation officer confirmed that Hanson was doing major renovations to the home. (Tr. 26.)

Hanson also spent time with Canning. (Tr. 152.) Hanson testified that he knew she used methamphetamine and that his brother told him that she used marijuana. (152, 154-55.) Hanson testified that none of these persons used drugs in his presence.

When Hanson's investigator interviewed Canning in July 2007, she stated that she abused methamphetamine in July 2006. (Tr. 119.) On the day of the October 31, 2007, hearing, Canning told the investigator that she used both marijuana and methamphetamine and that her use was heaviest at the times Hanson had positive sweat patch results. (Tr. 119-22, 127.) During the hearing, Canning did not testify, asserting her Fifth Amendment right against self-incrimination. (Tr. 117.)

Hanson testified that he lied when he previously admitted using

methamphetamine in October 2006. (Tr. 137-38, 148-52.)

Hanson also relies on Smith's testimony in United States v. Snyder, 187 F. Supp. 2d 52 (N.D.N.Y. 2002), regarding sweat patches and cocaine. Hanson offers no grounds for extrapolating Smith's results regarding to cocaine to apply to sweat patch results involving marijuana and methamphetamine.

Hanson testified that he would clean his own skin before an RRC employee applied the patch. (Tr. 135.) When it was time to remove the patch, Hanson would peel back the membrane and sometimes pull the patch out and hand it to the RRC employee or place it in the plastic bag himself. (Tr. 135.)

The Court finds by a preponderance of the evidence that Hanson's two April 2007 sweat patch tests that were positive for methamphetamine and marijuana were reliable and resulted from Hanson's use of methamphetamine. Hanson presented no evidence regarding methamphetamine or marijuana contamination of the patches. There is no evidence of methamphetamine being able to penetrate the membrane and the Court found that the sweat patches were not compromised. The Court does not find credible the assertion that somehow methamphetamine or marijuana from Hanson's fingers transferred to his

skin before the sweat patch was adhered. The fact that Hanson now alleges that he lied regarding methamphetamine use in October 2006, lessens Hanson's credibility with the Court. The Court finds that Hanson has violated his supervised release as alleged in the Petition.

**IT IS HEREBY ORDERED** that:

1. The Court finds by a preponderance of the evidence that Defendant Luis Marinae Corona violated his supervised release as alleged in the Amended Petition.
2. The Court finds by a preponderance of the evidence that Defendant Marvin Ray Hanson, Jr., violated his supervised release as alleged in the Petition.

Dated: December 19, 2007

s / Michael J. Davis  
Judge Michael J. Davis  
United States District Court